



Section w/EXT. (1)/#9  
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In re PATENT APPLICATION OF

Gunter Schmidt et al.

Group Art Unit: 1627

Application No. 09/806,564

Examiner: L. Guo

Filed: July 19, 2001

Title: Characterising Polypeptides Through Cleavage and Mass Spectrometry

\* \* \* \* \*

**ELECTION AND AMENDMENT**

Hon. Commissioner of Patents  
Washington, D.C. 20231

Sir:

In response to the Office Action [Restriction Requirement] mailed January 23, 2003, Applicants elect with traverse, Group III claims 1-2, 9-13, 18, 20, 23 and 27. Specifically, Applicants submit that the search for groups III and IV is substantially co-extensive.

Essentially, both groups are directed to very related methods for analysis of peptides that differ only in the recitation that a capping step is included or excluded. Applicants respectfully submit that the difference is not significant enough to render these groups preferably distinct.

In this regard, both of the analysis methods involve the identification of proteins based on the mass of their terminal peptides. The problem associated with the identification based exclusively upon mass is that a single profile of terminal peptides is that many proteins do not have a unique terminal peptide mass at the given mass accuracy of the mass spectrometer. By contrast, the present invention solves this problem by generating two or

more terminal peptides profiles to increase the chance that a protein will have a terminal peptide with a unique mass. More specifically, the present invention provides the following methods for generating different peptide profiles for comparison:

- Peptides can be isolated from both termini of the protein, allowing N-terminal to be combined with the C-terminal profile;

- Peptides can be generated from the same terminus but with different cleavage reagents; and

- Peptides can be generated from the same terminus with the same cleavage reagent but to derivatisation reagents used in the capping process can be varied to produce different mass modifications of different amino acids which results in mass differences in specific peptides.

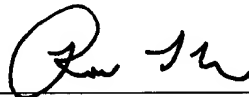
With further respect thereto, the third method of producing a terminal peptide profile is not a separate invention for Group IV. By contrast, the claims of Group III and Group IV are related by the feature that all the methods of these groups generate different mass spectra for the terminal peptides of each polypeptide in a sample. The generation of these different spectra improves the chance that at least one of the spectra will have a unique mass of a terminal peptide in a database of all the expected masses in the sample. Accordingly, both groups of claims clearly relate to the same invention.

Indeed, the removal of all claims of Group III which refer to the use of capping agent would limit all of the above three methods since they all require capping of at least one amino acid residue. This step is required in order to protect particular groups within the peptide. Turning now to the Examiner's further request of a election of species Applicants elect the following for the claims relating to Group III:

- (a) trypsin as a first cleavage agent;
- (b) cyanogen bromide as a second cleavage agent;
- (c) avidinated support through biotin as a specific solid phase support; and
- (d) bonding the C-terminal peptide to the solid phase support.

Additionally, Applicants note that the Examiner has withdrawn claims 21 and 22 from consideration of the application. These claims relate to previous claim 16 which was restricted in the previous restriction requirement. Applicants respectfully submit that these claims should be rejoined with the elected claims as claims are not patentably distinct from the invention claimed in Group III. As such claims 21 and 22 should be examined with the elected group for the same reasons set forth in our previous Election Response.

If the examiner has any questions in connection with this election, he is kindly requested to contact the undersigned at the telephone number given below, so that prosecution may be expedited.

By:   
Robin L. Teskin  
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Date: March 17, 2003

## IN THE UNITED STATES PATENT AND TRADEMARK

ICE

PATENT APPLICATION

Inventor(s): Gunter Schmidt et al. **806,564**  
 Appln. No.: 09/ **806,564**  
 Series Code ↑ Serial No. ↑

Group Art Unit 1627  
 Examiner: L. Guo  
 Atty. Dkt. P 0279469  
 M#

Appln. Title:

Filed: July 19, 2001

Hon. Commissioner of Patents  
 Washington, D.C. 20231

Sir:

**REPLY/AMENDMENT/LETTER**

Date: March 17, 2003

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MAR 24 2003

TECH CENTER 1600/2900

This is a reply/amendment/letter in the above-identified application and includes the herewith attachment of same date and subject which is incorporated hereinto by reference and the signature below is treated as the signature to the attachment in absence of a signature thereto.

**FEE REQUIREMENTS FOR CLAIMS AS AMENDED**

1. Small Entity claim A. <input type="checkbox"/> NOT made B. <input type="checkbox"/> Withdrawn C. <input type="checkbox"/> made herewith D. <input checked="" type="checkbox"/> made previously		For B & C See <b>Required</b> <b>Separate Paper</b> (Pat-256)		Claims remaining after amendment	Highest number previously paid for	Present Extra	Large/Small Entity	Additional Fee	Fee Code Lg/Sm
2. Total Effective Claims				**minus	0	0	x \$18/\$9 =	+ \$0	103/203
3. Independent Claims				***minus	0	0	x \$84/\$42 =	+ \$0	102/202
4. If amendment enters proper multiple dependent claim(s) into this application for first time (leave blank if this is a reissue application) .....				add			+ \$280/\$140 =	+ \$0	104/204
5. Original due Date: February 23, 2003				<input type="checkbox"/> NONE					
6. Petition is hereby made to extend the original due date to cover the date this response is filed for which the requisite fee is attached				(1 mo)	\$110/\$55 =				115/215
				(2 mos)	\$410/\$205 =	+ \$55			116/216
				(3 mos)	\$930/\$465 =				117/217
				(4 mos)	\$1,450/\$725 =				118/218
				(5 mos)	\$1,970/\$985 =				128/228
7. Enter any previous extension fee paid since above original due date and subtract				- \$0					
8.				Extension Fee		+ \$55			
9. If Terminal Disclaimer attached, add Rule 20(d) official fee .....				+ \$110/\$55		+ \$0		148/248	
10. If IDS attached requires Official Fee under Rule 97 (c), .....				+ \$180		+ \$0		126	
or if Rule 97(d) Request .....				+ \$180				126	
11. After-Final Request Fee per rules 129(a) and 17(r) .....				+ \$750/370		+ \$0		146/246	
12. No. of additional inventions for examination per Rule 129(b) .....				x \$750/375 ea		+ \$0		149/249	
13. Request for Continued Examination (RCE) .....				+ \$750/375		+ \$0		1179/1279	
14. Petition fee for .....						+ \$0			
15.				TOTAL FEE =		\$55			
16. *If the entry in this space is less than entry in next space, the "Present Extra" result is "0".									
17. **If the "Highest number previously paid for" in this space is less than 20, write "20" in this space.									
18. ***If the "Highest number previously paid for" in this space is less than 3, write "3" in this space.									

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Our Deposit Account No. 03-3975)

(Our Order No. 068800 0279469

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**CHARGE STATEMENT:** The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (missing or insufficiencies only) now or hereafter relative to this application and the resulting Official Document under Rule 20, or credit any overpayment, to our Accounting/Order Nos. shown above, for which purpose a duplicate copy of this sheet is attached.

This CHARGE STATEMENT does not authorize charge of the issue fee until/unless an issue fee transmittal sheet is filed.

Query: Is appeal deadline now? If so, file Notice of Appeals separately.

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NOTE: File this cover sheet in duplicate with PTO receipt (PAT-103A) and attachments